

IN THE SPECIFICATION:

Please replace the Summary of Invention section on page 5, line 14 through page 8, line 19 with the following amended section:

-- An object of the present invention is to solve the above-described problems.

Another object of the present invention is to provide a technique in which object data not requiring real time ability can be transferred positively in a data communication system, a data communication method and a data communication apparatus.

Also, another object of the present invention is to provide a technique capable of selecting a usable communication protocol even when plural different communication protocols exist in the data communication system, data communication method and data communication system.

As a preferred embodiment for such objects, the present invention discloses a communication system controlling a logical connection, and a method therefor. The system includes a controller, a source node including a first connection control register and a destination node including a second connection control register. The controller is adapted to select one of a first and a second communication protocol as a communication protocol to be used between the source node and the destination node, to set a logical connection to be used between the source node and the destination node, to access the first connection control register to store therein information for the communication protocol selected by the controller and information for the logical connection set by the controller, and to access the second connection control register to store therein information for the communication protocol selected by the controller and

information for the logical connection set by the controller. The first communication protocol is a communication protocol that uses a broadcast communication, but does not use an isochronous transfer, and the controller, the source node and the destination node are adapted to communicate with each other using a communication unit conformed to IEEE 1394-1995 standard.

As another embodiment, the present invention discloses a controller, and a method therefor. The controller includes a controlling unit adapted to select one of a first and a second communication protocol as a communication protocol to be used between a source node including a first connection control register and a destination node including a second connection control register, to set a logical connection to be used between the source node and the destination node, to access the first connection control register to store therein information for the selected communication protocol and information for the set logical connection, and to access the second connection control register to store therein information for the selected communication protocol and information for the set logical connection. The first communication protocol is a communication protocol that uses a broadcast communication, but does not use an isochronous transfer, and the source node and the destination node are adapted to communicate with each other using a communication unit conformed to IEEE 1394-1995 standard.

As a further embodiment, the present invention discloses a communication system, and a method therefor. The system includes a source node including a first connection control register, a destination node including a second connection control register and a controller. The controller is adapted to select one of a first and a second communication protocol as a communication protocol to be used between the source node and the destination node, to set a logical connection to be used between the source node and the destination node, to access the

first connection control register to store therein information for the communication protocol selected by the controller and information for the logical connection set by the controller, and to access the second connection control register to store therein information for the communication protocol selected by the controller and information for the logical connection set by the controller. The controller, the source node and the destination node are adapted to communicate with each other using a communication unit conformed to IEEE 1394-1995 standard, and the first communication protocol is a communication protocol that uses an asynchronous transfer, but does not use an isochronous transfer.

As a still further embodiment, the present invention discloses a controller, and a method therefor. The controller includes a controlling unit adapted to select one of a first and a second communication protocol as a communication protocol to be used between a source node including a first connection control register and a destination node including a second connection control register, to set a logical connection to be used between the source node and the destination node, to access the first connection control register to store therein information for the selected communication protocol and information for the set logical connection, and to access the second connection control register to store therein information for the selected communication protocol and information for the set logical connection. The source node and the destination node are adapted to communicate with each other using a communication unit conformed to IEEE 1394-1995 standard, and the first communication protocol is a communication protocol that uses an asynchronous transfer, but does not use an isochronous transfer. ~~data communication system comprising a source node for transferring object data including one or more segments by using at least one asynchronous communication, one or more~~

~~destination nodes for receiving the object data transferred from the source node, and a controller for setting a logical connection relationship between the source node and the one or more destination nodes and wherein the controller selects a communication protocol used in the source node and the destination nodes among a plurality of different communication protocols.~~

~~————— As another embodiment, the present invention discloses a data communication method comprising the steps of setting a logical connection relationship between a source node and one or more destination nodes, selecting a communication protocol to be used in the source node and the destination nodes among a plurality of different communication protocols, transferring object data including one or more segments to the destination nodes by using at least one asynchronous communication, and receiving the object data transferred from the source node by using the logical connection relationship.~~

~~————— As a further embodiment, the present invention discloses a data communication apparatus comprising a unit for packetizing object data including one or more segments to at least one communication packet, and a unit for transferring the communication packet in an asynchronous manner by using a logical connection relationship set with respect to one or more destination nodes and a communication protocol.~~

~~————— As a still further embodiment, the present invention discloses a data communication method comprising the steps of packetizing object data including one or more segments to at least one communication packet, and transferring the communication packet in an asynchronous manner by using a logical connection relationship set with respect to one or more destination nodes.~~

~~————— As a further embodiment, the present invention discloses a data communication~~

~~apparatus comprising a unit for receiving at least one communication packet transferred in an asynchronous manner, by using a logical connection relationship set with respect to one or more destination nodes, and a unit for writing data included in the communication packet into a memory space designated by the communication packet.~~

~~As a still further embodiment, the present invention discloses a data communication method comprising the steps of receiving at least one communication packet transferred in an asynchronous manner, by using a logical connection relationship set with respect to one or more destination nodes, and writing data included in the communication packet into a memory space designated by the communication packet.~~

~~As a further embodiment, the present invention discloses a data communication apparatus comprising a means for setting a logical connection relationship between a source node and one or more destination nodes, and a means for selecting a communication protocol capable of being used in the logical connection relationship among a plurality of different communication protocols.~~

~~As the other embodiment, the present invention discloses a data communication method comprising the steps of setting a logical connection relationship between a source node and one or more destination nodes, and selecting a communication protocol capable of being used in the logical connection relationship among a plurality of different communication protocols.~~

Still other objects of the present invention, and the advantages thereof, will become fully apparent from the following detailed description of the embodiments.--